

Helping Massachusetts Municipalities Create a Cleaner Energy Future

**GREEN COMMUNITIES**  
Massachusetts Department of Energy Resources

COMMONWEALTH OF MASSACHUSETTS  
Deval L. Patrick, Governor  
Richard K. Sullivan, Jr., Secretary  
Mark Sylvia, Commissioner

**Becoming a Green Community**

Webinar  
June 5, 2013

*Thank you for joining us.  
The webinar will start in a few minutes...*

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Helping Massachusetts Municipalities Create a Cleaner Energy Future

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**Introduction:  
Green Communities Division**

Lisa Capone  
Deputy Director  
Green Communities Division

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**Green Communities Division**

Serves as the hub for all Massachusetts cities and towns on energy matters

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Massachusetts Department of Energy Resources

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**Green Communities Division - Programs & Resources for Municipalities**

- Green Communities Designation and Grant Program
- MassEnergyInsight energy tracking and analysis tool
- Municipal Energy Efficiency Program
- Energy Management Services Technical Assistance
- Clean Energy Results Program (CERP)
- Mass Municipal Energy Group (MMEG)
- Website filled with tools & resources  
[www.mass.gov/energy/greencommunities](http://www.mass.gov/energy/greencommunities)
- Email updates via e-blasts – Sign up by sending an email to:  
[join-ene-greencommunities@listserv.state.ma.us](mailto:join-ene-greencommunities@listserv.state.ma.us)

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## Outreach - Regional Coordinators

- Regional Coordinators act as direct liaisons with cities and towns on energy efficiency and renewable energy activities
- Located at each of the DEP Regional Offices:



SERO – LAKEVILLE: Seth Pickering  
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WERO – SPRINGFIELD: Jim Barry  
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## Recording & Presentation

- The webinar is being recorded and will be available on our website in approximately 48 hours at:  
[www.mass.gov/energy/greencommunities](http://www.mass.gov/energy/greencommunities)
- The slide presentation will also be posted at:  
[www.mass.gov/energy/greencommunities](http://www.mass.gov/energy/greencommunities)
- Website and contact information is listed at end of presentation

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## Presenters

**Joanne Bissetta**  
Northeast Regional Coordinator, Green Communities Division,  
DOER

**Susan McPhee**  
Energy Coordinator, Town of Winchester, MA



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## Poll Question #1

- If you represent a city or town that isn't already a Green Community, how likely are you to apply for Green Community designation in our fall 2013 designation round?

- definitely applying
- probably applying
- considering it
- don't intend to apply
- already a Green Community

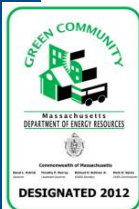


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## GREEN COMMUNITIES GRANT PROGRAM

### Qualification Criteria



1. Adopt as-of-right siting for RE/AE generation, R&D, or manufacturing
2. Adopt expedited permitting process
3. Create an Energy Reduction Plan to reduce energy use by 20% in 5 years
4. Purchase only fuel-efficient vehicles
5. Adopt Stretch Code or minimize life cycle cost

Green Communities Act, M.G.L. Ch. 25A §10



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## GREEN COMMUNITIES GRANT PROGRAM

### Qualification Criteria



1. As-of-Right Siting for RE/AE
2. Expedited Permitting
3. Energy Reduction Plan
4. Fuel-Efficient Vehicles
5. Minimize Life Cycle Costs

Green Communities Act, M.G.L. Ch. 25A §10



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## Criterion 1 – As-Of-Right Siting

For at least one of the following:

1. Renewable or Alternative Energy Generating Facilities or;
2. Renewable or Alternative Energy Research and Development (R&D) Facilities or;
3. Renewable or Alternative Energy Manufacturing Facilities in designated locations.



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## Criterion 1 – As-Of-Right Siting / Generation

1. On-Shore Wind – A minimum of a 600 kW turbine
2. Off-Shore Wind – A minimum of a 2.5 MW turbine
3. Solar Photovoltaic – A single ground-mounted system of a minimum of 250 kW
4. Biomass CHP - A minimum of 5 MW in a stand-alone building
5. Ocean, Wave or Tidal – no minimum threshold



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### Criterion 1 – 600 kW Wind Turbine



600 kW Wind Turbine at  
MWRA's Deer Island  
Wastewater Treatment  
Facility



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### Criterion 1 – As-Of Right Siting



250 kW Ground-Mounted Solar PV



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### Criterion 1 – As-of-Right Siting / Generation

#### Documentation for Criterion #1 for Generation:

1. Brief description of zoning bylaw /ordinance
2. Identification of designated location(s)
3. Copy of zoning bylaw/ordinance
4. Site Plan Review language so that DOER can confirm that review is non-discretionary
5. Copy of zoning map that shows area zoned



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### Criterion 1 – As-of-Right Siting / Mfg and R&D

#### Documentation for Criterion #1 for Mfg or R&D:

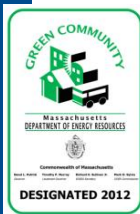
1. Applicable section of its zoning bylaw/ordinance
2. Copy of zoning map that shows area zoned
3. Important zoning definitions
4. Relevant section of the use table and any key that will help DOER interpret the use table
5. Any related local regulations applicable to facilities sited under the bylaw/ordinance—such as site plan review regulations—so that DOER can confirm that the related local regulations are non-discretionary; AND
6. Yield calculations, documenting that at least 50,000 sf are available for development/redevelopment.



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### GREEN COMMUNITIES GRANT PROGRAM



#### Qualification Criteria

1. As-of-Right Siting for RE/AE
2. **Expedited Permitting**
3. Energy Reduction Plan
4. Fuel-Efficient Vehicles
5. Minimize Life Cycle Costs

Green Communities Act, M.G.L. Ch. 25A §10



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### Criterion 2 – Expedited Permitting



**12 months: date of initial application to date of final decision**

1. Applies only to the proposed facilities subject to the as-of-right siting provision.
2. Can apply the MGL c 43D permitting process to these zoning districts .



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## Criterion 2 – Expedited Permitting

### Documentation for Criterion #2:

1. A letter from legal counsel:
  - Affirm no preclusions for expedited permitting
  - Include language addressing approval procedures
  - Associated timing from any applicable bylaws/ordinances or regulations.
2. A copy of the applicable map(s) showing that the areas where the expedited permitting applies coincides with the as-of-right zoned areas for Criterion 1.

OR

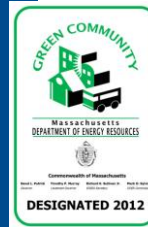
1. MGL c43D
  - A certified copy of their City Council or Town Meeting vote designating the as-of-right zoned parcel(s) as a Priority Development Site.
  - A copy of the applicable map(s) showing the areas where the expedited permitting applies.



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## GREEN COMMUNITIES GRANT PROGRAM



### Qualification Criteria

1. As-of-Right Siting for RE/AE
2. Expedited Permitting
3. **Energy Reduction Plan**
4. Fuel-Efficient Vehicles
5. Minimize Life Cycle Costs

Green Communities Act, M.G.L. Ch. 25A §10



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## Criterion 3 – Energy Baseline & 20% Energy Reduction Plan



Calculate an energy use baseline inventory that includes:

- Municipal buildings, including schools
- Vehicles
- Street and traffic lighting (if municipally-owned)



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## Criterion 3 – Energy Tracking Tools

Monitoring: Electricity Use



- DOER's MassEnergyInsight ([www.massenergyinsight.net](http://www.massenergyinsight.net))
- EnergyStar Portfolio Manager
- ICLEI software
- Any other tools must be pre-approved by DOER



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## Criterion 3 – Energy Baseline & 20% Energy Reduction Plan

### Documentation for Criterion #3:

1. Inventory tool
2. Baseline year
3. Energy use inventory
4. Specific energy conservation measures to be implemented with expected energy reductions and a timeline
5. Documentation that both the general government and local school district have adopted the energy reduction plan.
  - If a regional school district is included as part of the designation, documentation that the regional school district has adopted the plan must be included.



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## Criterion #3: Energy Reduction Plan

- **Things to keep in mind:**
  - An ERP is a document that requires thoughtful planning and participation by all municipal departments, including schools.
  - It can be expected that this entire process will require a minimum of three months.
  - A team of individuals and a designated lead responsible for conducting the baseline inventory and developing the ERP should be identified.



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### Criterion #3: Energy Reduction Plan

- **More things to keep in mind:**
  - Baseline year should be most recent year. Fall 2013 applicants should use FY13.
  - To get credit for significant energy upgrades, towns can set baseline at FY12 or FY11.
  - BUT.... 5 year clock starts ticking then.
  - Exhaustive Guidance Document on DOER webpage has all the details.
  - Contact your Regional Coordinator if you need help sooner rather than later.



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### GREEN COMMUNITIES GRANT PROGRAM



#### Qualification Criteria

1. As-of-Right Siting for RE/AE
2. Expedited Permitting
3. Energy Reduction Plan
4. **Fuel-Efficient Vehicles**
5. Minimize Life Cycle Costs

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### Criterion 4 – Fuel Efficient Vehicles

1. Purchase only fuel-efficient vehicles for municipal use whenever such vehicles are commercially available and practicable.
2. Police cruisers are exempt until commercially available.
3. Heavy-duty vehicles > 8,500 pounds are exempt.

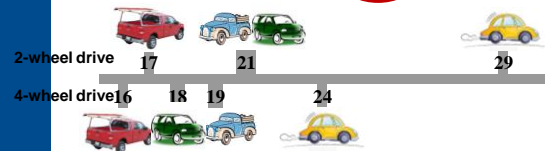


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### Criterion 4 – Fuel Efficient Vehicles

Based on 2010 EPA data, vehicles are to have a combined city and highway MPG ≥



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### Criterion 4 – Fuel Efficient Vehicles

#### Documentation for Criterion #4:

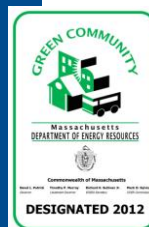
1. Copy of the policy or other mechanism adopted for purchasing only fuel efficient vehicles.
2. Inventory of all vehicles (model, year, estimated mpg) with plan for replacing Non-Exempt vehicles with fuel efficient vehicles.
3. Documentation that both the municipality and school dept. have adopted the fuel efficient vehicle policy.
  - If a RSD is included as part of the designation, documentation that the RSD has adopted the policy must be included



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### GREEN COMMUNITIES GRANT PROGRAM



#### Qualification Criteria

1. As-of-Right Siting for RE/AE
2. Expedited Permitting
3. Energy Reduction Plan
4. Fuel-Efficient Vehicles
5. **Minimize Life Cycle Costs of new construction**

Green Communities Act, M.G.L. Ch. 25A §10



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### Criterion 5 – Minimize Life Cycle Costs



**Statute says:** Require all new residential construction over 3,000 square feet and all new commercial and industrial real estate construction to minimize, to the extent feasible, the life-cycle cost of the facility by utilizing energy efficiency, water conservation and other renewable or alternative energy technologies.

The DOER recommended way to meet this requirement is by adopting the BBRS Stretch Code (780 CMR 115.00) an appendix to the MA State Building Code.

• Note: There is no minimum 3,000 square foot threshold for new residential construction if your municipality adopts the Stretch Code. *All* new residential construction will be subject to the Stretch Code.

- In a town, the Stretch Code is adopted as a general bylaw by its Town Meeting.
- In a city, the Stretch Code is adopted by the City Council, preferably by general ordinance.



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### Criterion 5 – Minimize Life Cycle Costs



#### Documentation for Criterion #5:

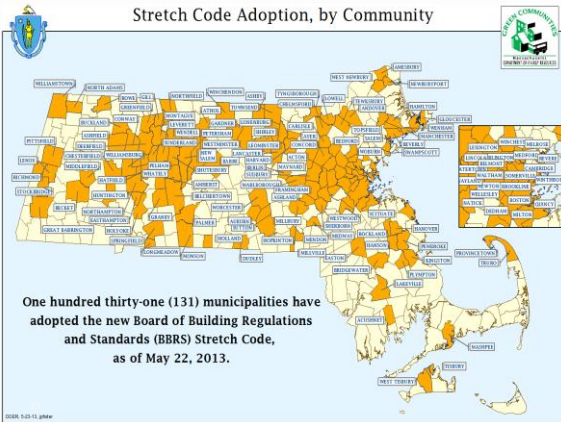
- Stretch Energy Code
  - Documentation of the city council or town meeting vote adopting 780 CMR 115.00, MA Board of Building Regulations and Standards (BBRS) Stretch Energy Code.



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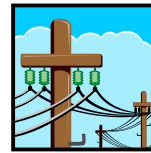
### Stretch Code Adoption, by Community



BBRS, 5-22-13, ghaw

### MLP Municipalities

#### Municipalities served by Municipal Light Plants (MLPs) can become a Green Community if:



- The MLP must have adopted the renewable energy charge, OR
- The municipality must be served by an investor-owned utility in addition to the MLP.



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### MLP Municipalities



#### Documentation Required: One of the following:

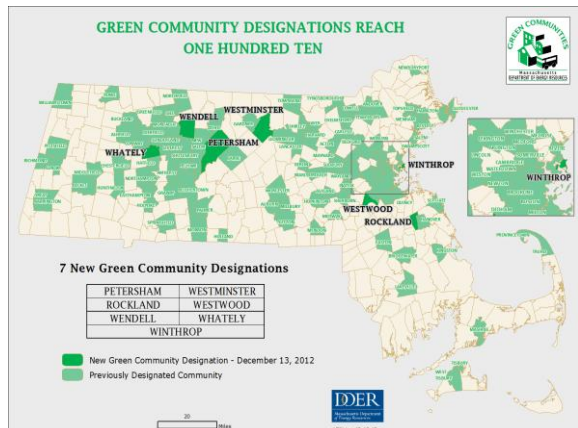
- A letter from the Massachusetts Renewable Energy Trust or Massachusetts Clean Energy Center verifying that the MLP has adopted the renewable energy charge.
- A letter from an investor-owned utility that it serves customers within the town's borders.



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### GREEN COMMUNITY DESIGNATIONS REACH ONE HUNDRED TEN





## Why Become a Green Community?



- **Economic Benefits** – reduce energy consumption, reduce energy costs
- **Environmental benefits** – reduce greenhouse gas emissions
- **Recognition** – Sustainability leader in the Commonwealth
  - Recognized on DOER website, printed materials
  - Recognition sign placed in each community
- **Grants** - \$\$ to become even greener



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## Green Community Grants

Grant allocations based on a \$125K base plus a population/per capita income formula; maximum \$1M.



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## Sampling of Grant-Funded Projects

- **Arlington:** \$200,188 for LED streetlights, replacement of steam traps, and for an energy management system at the Hardy School.
- **Belchertown:** \$160,917 to fund the buy-down of an energy management services contract for municipal and school buildings.
- **Chelmsford:** \$187,224 for a 30 kW roof-mounted solar PV system at the Parker Middle School.
- **Kingston:** \$163,528 for energy efficiency measures at the elementary school, public library, and a fire station.
- **Pittsfield:** \$256,632 for an energy management system and replacement of 53 unit heaters at City Hall.
- **Salem:** \$245,624 for energy efficient streetlights, lighting retrofits in city buildings, a residential weatherization pilot program and a bike sharing pilot program.



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## Green Communities Designation and Grant Flowchart



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## Poll Question #2

What do you consider the biggest benefit of becoming a Green Community?

- Access to designation and competitive grants and other financial assistance for energy projects.
- Assistance with tracking municipal energy usage in order to target efficiency and save money.
- Reducing municipal greenhouse gas emissions, and contribute to overall environmental sustainability .
- Other



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## Green Communities:

### Winchester's Experience

Susan McPhee: Energy Conservation Coordinator



## What's Working



- Energy Management Committee –2005
- Energy Conservation Coordinator – 2009
- Energy Revolving Fund – 2009
- Green Communities Designation – 2010
- Solarize Mass – 2011
- Green Communities Grant – 2011-12
- Community Collaboration - ongoing

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## Community Collaboration

- **Sustainable Winchester**
  - Green Communities effort
  - Recycling and presence at Town events
  - Farmer's Market
- **Cool Winchester**
  - Solarize Mass
  - Partnership with Next Step Living/Residential energy audit program
- **Climate Action Task Force**
  - Recycling move to single stream

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## Criteria 1 & 2 Ground Mount Solar

- **Solar on closed landfill, at Town Transfer Station**
- **Many partnerships for success**
  - Planning Board
  - Town Planner
  - DPW
  - Board of Selectmen
  - Conservation Commission
  - Town Manager
  - Sustainable Winchester
  - Local newspaper

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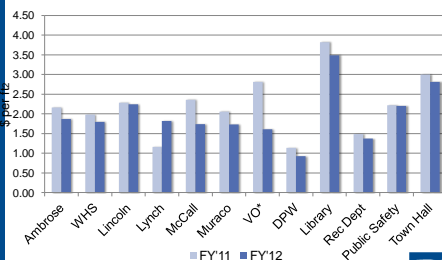
## Energy Management Committee

- **Audits**
- **Policies**
  - Building Champions
  - Air Conditioning
  - Temperature Set Points – 66/76
  - Energy Efficient Building Policy
  - Load Shed
  - Energy Rental Surcharge
- **Energy Conservation Coordinator**
- **Energy Revolving Fund**
- **Energy Usage Tracking**

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## Total energy cost per Square Foot

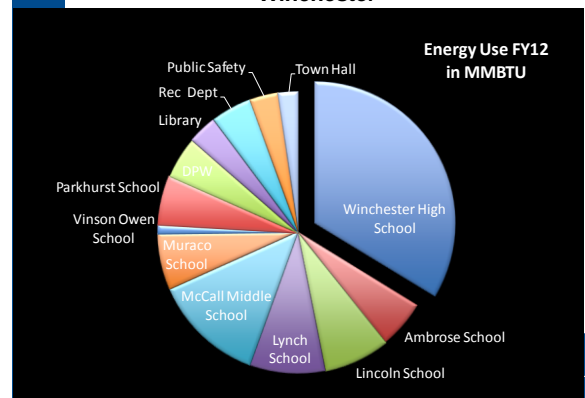


\* FY12 data for VO reflects current Parkhurst site.

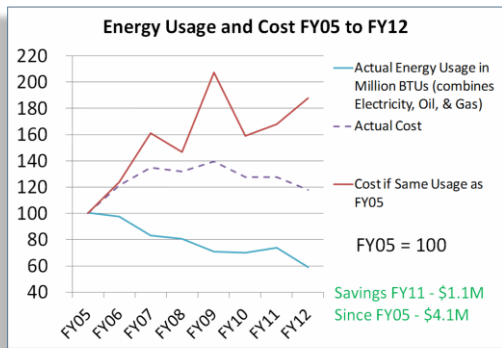
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## Winchester







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## Energy Revolving Fund



- Funded by Energy Rental Surcharge and demand response payments
- Renewed annually at Spring Town Meeting
- Spending cap grew from \$10,000 to \$80,000/year
- Town Manager signature required
- 3 year or better simple payback
- Often paired with utility incentives

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## Energy Conservation Measures



- Lighting & Motion Sensors
  - 10 projects
  - \$54,000 annual savings
- Vending Misers
  - 7 buildings
  - \$3,400 annual savings
- Variable Frequency Drives
  - 6 projects
  - \$68,900 annual savings
- Refrigeration
  - 2 projects
  - \$3,000 annual savings

- Paid for by Energy Revolving Fund

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## Green Community Grant \$

### — Original Grant

- \$153,000

- Closed December 2012

### — McCall Middle School partial retro-commission

- VFD's on hot water pumps, Boiler Room
- EMS upgrade
- CO2 sensors in gym, auditorium, library

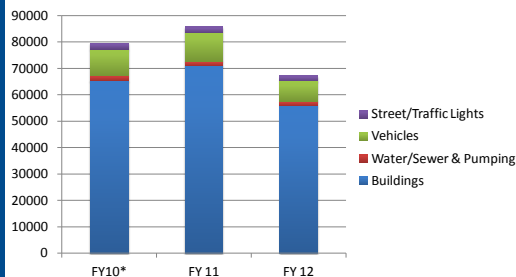
### — Winchester High School VFD's

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## Green Communities Results

Energy use in MMBtus



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## Additional Opportunities For Green Communities

Solarize Mass  
Thermal Imaging  
Technical Assistance  
Electric Vehicle Incentives



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## Thanks to all the Green Communities!



Google: Faces Green Communities



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## Questions



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## Contacts

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